

# PATENT ABSTRACTS OF JAPAN

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(21)Application number : 03-088675

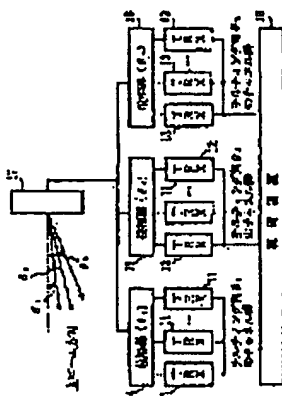
(71)Applicant : NIPPON TELEGR &  
TELEPH CORP <NTT>

(22)Date of filing :

19.04.1991

(72)Inventor : FUJII TERUYA

## (54) MOBILE COMMUNICATION CHANNEL SWITCHING CONTROL SYSTEM



(57)Abstract:

PURPOSE: To attain the switching to a channel having an optimum tilting angle at every mobile station in a mobile communication channel switching control system in which a tilting angle is controlled by channel switching in each radio zone.

CONSTITUTION: Plural channels accommodated in a base station are grouped and phase shifters 14, 15, 16 set respectively tilting angles  $\theta_1$ ,  $\theta_2$ ,  $\theta_3$  at every channel group. A control circuit 18 connected to each of transmitters-receivers 11, 12, 13 monitors reception levels of a mobile station or a base station or both during talking for each channel. A talking channel is switched to a channel group having a tilting angle in which a reception level versus interference wave level ratio of a same channel is maximized.

### LEGAL STATUS

[Date of request for examination]

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(54) MOBILE COMMUNICATION CHANNEL SWITCHING CONTROL  
SYSTEM

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decision of rejection]

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*Electrically controllable*  
*tilt*

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(21)Application number : 03-088676

(71)Applicant : NIPPON TELEGR & TELEPH  
CORP <NTT>

(22)Date of filing : 19.04.1991

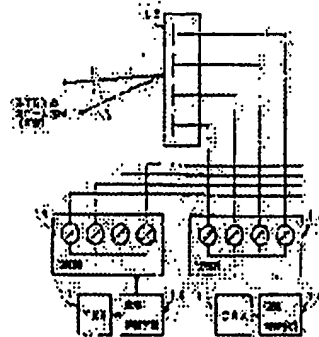
(72)Inventor : FUJII TERUYA

## (54) ANTENNA BEAM CONTROL SYSTEM

### (57)Abstract:

**PURPOSE:** To improve the frequency utilization efficiency by monitoring the reception level of a base station or a mobile station or both the base station and the mobile station during talking so as to control a tilting angle in which the reception level versus interference wave level ratio of a same channel is maximized in response to the reception level.

**CONSTITUTION:** A base station is provided with a beam tilting antenna 12 tilting electrically the in-vertical plane directivity in the direction of an elevating angle at every transmitter-receiver (TRX) 11 corresponding to each channel. Moreover, the system is provided with a phase shifter 13 and a phase control means 14 setting and controlling the tilting angle of the antenna 12 and the means 14 connected to the TRX 11 monitors a reception level and talking quality respectively. The position and the talking quality of a mobile station with respect to a base station are decided in response to the reception level and the talking quality to set a relevant tilting angle. Thus, the same channel interference is reduced and the frequency utilization efficiency is improved.



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*Is the phase shifter impl  
described. Can it be  
positioned in the antenna*

rejection]

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decision of rejection]

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